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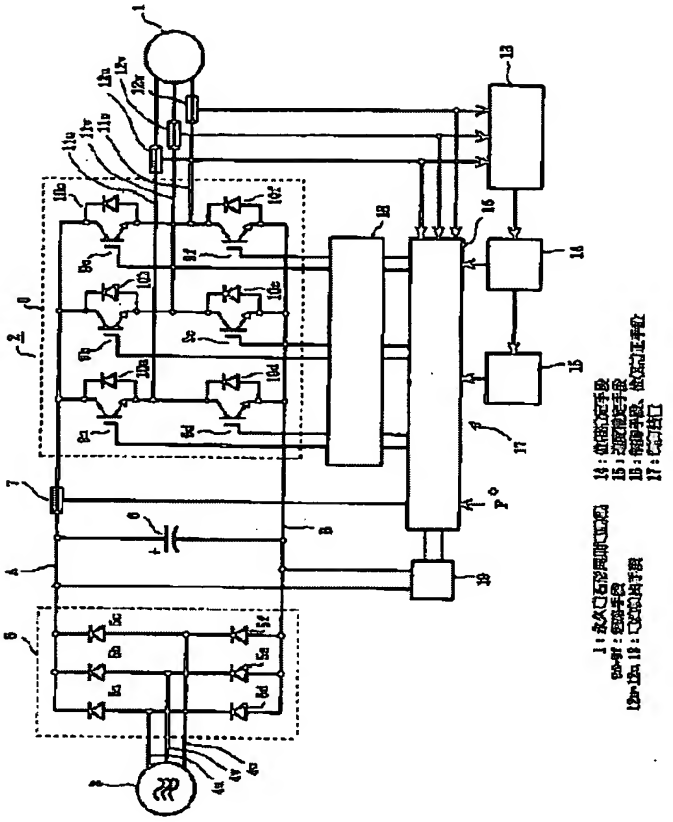
TITLE : DEVICE FOR CONTROLLING PERMANENT MAGNET SYNCHRONOUS MOTOR



ABSTRACT : PROBLEM TO BE SOLVED: To re-drive a motor out of synchronism by detecting power restoration after power interruption.

SOLUTION: When a motor 1 is caused to be out of synchronism due to momentary power failure an the like during a synchronous operation, a control circuit 16 short-circuits stator windings by turning on IGBT 9b or 9f at the lower phase of an inverter circuit 8 at power restoration. A current detecting sensor 12u or 12w and a current detecting circuit 13 detect the current caused by the induced voltage. A control device 17 made of a phase estimation circuit 14, a speed estimating circuit 15 and a control circuit 16 drives the motor 1 again by estimating the magnetic pole position and rotational speed of a rotor, computing the operation voltage and operation frequency, and controlling the inverter circuit 8 with PWM and its switching.